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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/771,762   | 02/04/2004  | Paul A. Rhea         | 60046.0022USU1      | 3651             |
| 53377  | 7590        | 12/10/2007           | EXAMINER            |                  |
| HOPE BALDAUFF HARTMAN, LLC<br>1720 PEACHTREE STREET, N.W.<br>SUITE 1010<br>ATLANTA, GA 30309 |             |                      | LEE, PING           |                  |
|  |             | ART UNIT             | PAPER NUMBER        |                  |
|  |             | 2615                 |                     |                  |
|  |             | MAIL DATE            |                     | DELIVERY MODE    |
|  |             | 12/10/2007           |                     | PAPER            |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

|                              |                 |               |
|------------------------------|-----------------|---------------|
| <b>Office Action Summary</b> | Application No. | Applicant(s)  |
|                              | 10/771,762      | RHEA, PAUL A. |
|                              | Examiner        | Art Unit      |
|                              | Ping Lee        | 2615          |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 22 October 2007.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) 15-18 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-14, 19, 20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Election/Restrictions*

1. Applicant's election without traverse of Group I and Species 1 in the reply filed on 10/22/07 is acknowledged.
2. Since Species 1 is being elected, claims 15-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Election was made **without traverse** in the reply filed on 10/22/07.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Prockup (US006157505A).

Regarding claim 19, Prockup discloses a method for automatically testing a record function associated with an audio channel of an audio device (tape recorder) across varying frequencies, comprising:

playing a first digital format tone at a first frequency (1 kHz; col. 4, lines 35-36);  
converting the first digital format tone from a digit format to an analog format (by 70);

looping the analog format tone through a first audio channel and recording the analog format tone (through 84 and being recorded by 42 in analog format);

converting the recorded analog format tone to a recorded digital format tone (by 46);

converting the recorded digital format tone from a time domain to a frequency domain via a Fast Fourier Transformation (FFT) (by 50)

comparing a frequency of the recorded digital format tone with the first frequency (Fig. 6A or 6B);

if the frequency of the recorded digital format tone is the same as the first frequency, designating the first audio channel as passing a record test at a known frequency (Fig. 6A).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (hereafter Li) (US 20020083419A1) in view of Prockup.

Regarding claim 1, Li discloses a method for automatically testing audio channels of an audio device comprising:

playing a first digital format tone from a first audio sound card (para. 0036);  
comparing the recorded tone to a first digital format tone; and  
if the recorded digital format tone is substantially similar to the first digital format tone,  
designating the first audio sound card as passing an audio test (para. 0037).

Li fails to explicitly show that the first digital format tone is being converted to the analog format, loop the analog format tone, record the analog format tone and convert the recorded analog format tone to a recorded digital format.

Li teaches that the sound is given off from the sound card using a broadcast device. Examiner takes Official Notice that it was well known to use a speaker to generate sound from a sound card. It was also well known to those in the art to convert the digital signal from the sound card to analog format in order to allow the speaker to generate the sound. Although Li fails to discuss clearly, a recorded tone from the broadcast device is analog since the broadcast device generating analog sound. Since Li teaches a software to compare the data of sound signal generator with the data of the recorder, the data of the recorder must be in digital format for computer analysis. Thus, it would have been obvious to one of ordinary skill in the art to modify Li by performing the necessary digital-to-analog conversion and analog-to-digital conversion in order to perform the recording and comparing functions.

7. Claims 19, 20, 8-14, 2-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Li in view of Prockup.

Regarding claims 19, 20, 8-11, 2-7, Li discloses a method for automatically testing audio channels of an audio device with the steps of play a first digital format tone

forma first audio sound card and comparing the recorded digital format tone to the first digital format tone. However, Li fails to explicitly show the DAC and ADC and using FFT for signal comparison. Prockup teaches DAC for converting the microprocessor (a computer in Li includes a microprocessor) controlled sound to proper format and ADC to convert the recorded tone to proper format for signal analysis. Prockup also teaches another method for analyzing the data. By using FFT and comparing the original signal and the recorded signal in frequency domain, the microprocessor could determine whether the system has passed the audio test. Thus, it would have been obvious to one of ordinary skill in the art to modify Li in view of Prockup by performing the necessary DAC, ADC, FFT and comparing the data in frequency domain in order to perform simply comparison of the recorded signal and the original signal.

Regarding claims 3 and 4 Li teaches the frequency and the volume are predetermined.

Regarding claims 5 and 7, Li discloses the claimed frequency synthesizer and frequency modulation synthesizer (para. 0016).

Regarding claim 6, the claimed tone wave table is taught in Prockup (col. 4, lines 47-48).

Regarding claims 12 and 13, as taught in Prockup, the volume (in terms of amplitude) is being compared.

Regarding claim 14, Prockup teaches that the DC offset value is calculated (col. 7, lines 59-63), and being compared with a known acceptable DC offset value

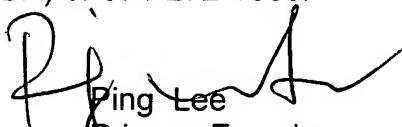
(threshold), and the audio channel would be designed as failed if the calculated DC offset value is unacceptable.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522.

The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Ping Lee  
Primary Examiner  
Art Unit 2615

pwl